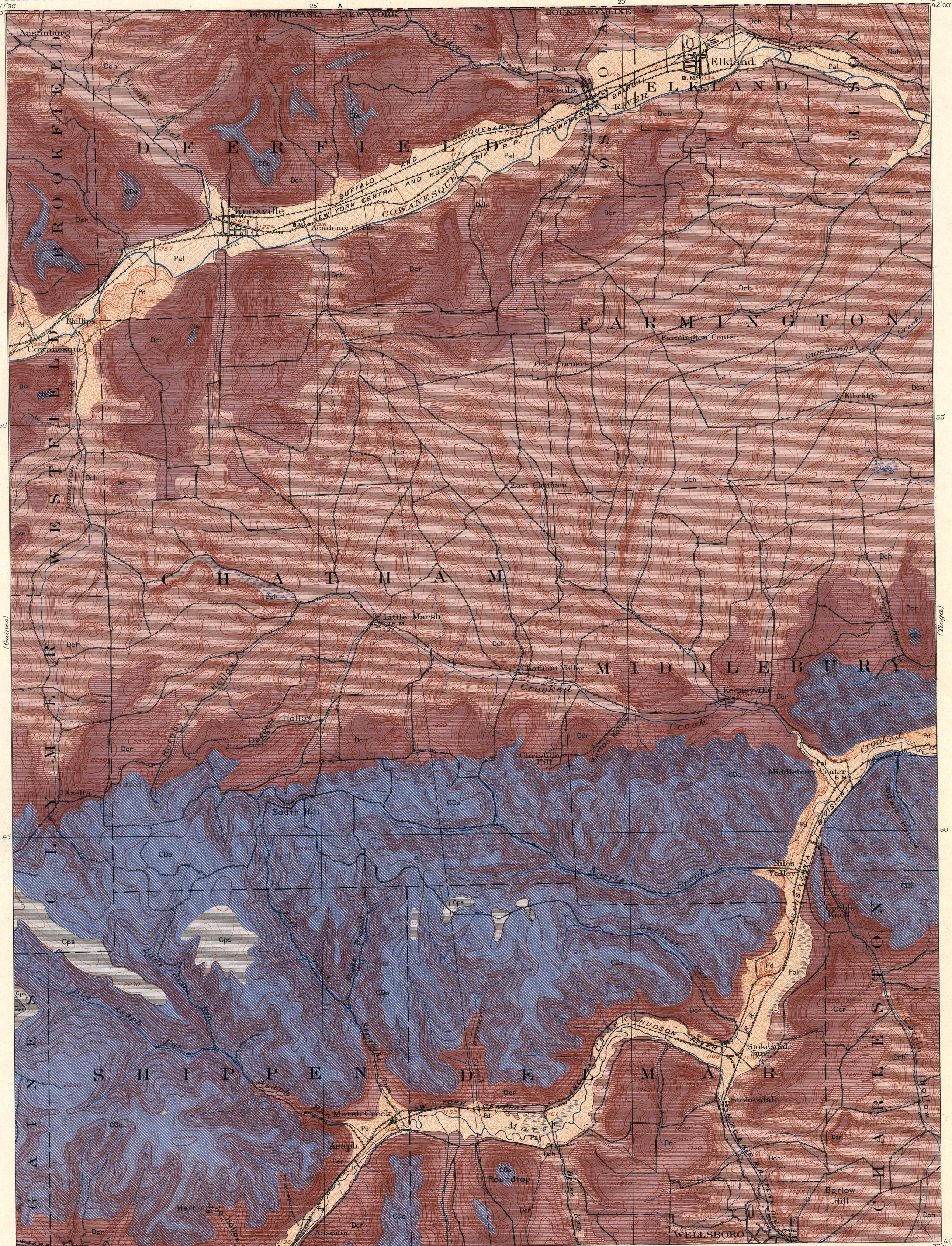


U. S. GEOLOGICAL SURVEY  
CHARLES D. WALCOTT, DIRECTOR.

STATE OF PENNSYLVANIA  
GEORGE W. MC NEES, SIMON HAROLD  
FRED D. BARKER, COMMISSIONERS

# AREAL GEOLOGY

PENNSYLVANIA  
(TIOGA COUNTY)  
ELKLAND QUADRANGLE



## LEGEND

### SURFICIAL ROCKS

(Areas of Surficial rocks are shown by patterns of dots and circles.)

- Pal Valley alluvium (gravel, sand, and silt in the larger valleys)
- Pd Deposits other than alluvium (shown only where deeply covering the boundaries between underlying formations)

### SEDIMENTARY ROCKS

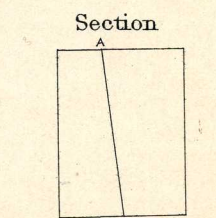
(Areas of Sedimentary rocks are shown by patterns of parallel lines.)

- Cpv Pottsville formation exclusive of Sharon conglomerate (buff sandstone and gray to black shale)
- Cps Sharon conglomerate member of Pottsville formation (white quartz conglomerate at the base of the formation)

### UNCONFORMITY

- CDs Oswayo formation (green sandstone and shale)
- Dcr Cattaraugus formation (red shale and sandstone)
- Dch Chemung formation (buff and gray shale, sandstone and impure limestone)

### Section



H. M. Wilson, Geographer in charge.  
Control by S. S. Gannett, Oscar Jones, and J. W. Thom.  
Topography by J. H. Jennings and J. W. Thom.  
Surveyed in 1898 in cooperation with the State of Pennsylvania.

Scale 25,000  
Miles  
Kilometers

Contour interval 20 feet.  
Datum is mean sea level.  
Edition of May 1903.

M. R. Campbell, Geologist in charge.  
Geology by M. L. Fuller, J. D. Irving,  
and Charles Butts.  
Surveyed in 1900.